THE

Investigation

OF THE

True Initial Cause

OF

Insania.

WIN. RIDGE PRINTER

PREFACE

TO THE THIRD EDITION.

THE inducements for writing this new edition of the investigation of the cause of 'mental derangement,' were—the many errors both in the arrangement and printing of the former edition—the advice of more able and experienced authors, and the ardent desire to effect every improvement which was in the power of the writer—that the work might present a commodious form—with every assertion relative to the origin, progress, and continued perseverance in the study, and observations of the afflicted—the special results—the explanations, and proofs, essayed therein — quite open and clear to the scrutiny and decision of the public.

ON

MENTAL DERANGEMENT.

CHAPTER I.

ORIGINATION OF THE STUDY AND INVESTIGATION INTO THE REAL CAUSE OF THE DISORDER.

THE year 1830, will ever be remembered, as being the year in which I was apprized by letter from a resident at Great Malvern that "an amiable and accomplished lady," (to whom my father, a commander in the Royal Navy, had long been united, consequently well known to me) "had, in the prime of her days, been suddenly attacked, by the direst of human diseases—mental derangement: without having any discoverable predisposition to, or ever evinced the slightest indication of, the malady."

The intelligence was intensely grievous—and having at the time just attained an independent income—determined the dedication of my life and fortune to the investigation, and discovery (if possible) of the actual origin of that strangely afflictive disease. With this view, a consultation was held with an elder brother, then, in practice, as a surgeon, at Clun, in the county of Salop, informing him of the determination. This, he greatly applauded—and having studied at one of the London Hospitals and acquired some knowledge of the disease imparted very useful instruction how to proceed in the investigation. In furtherance of the pursuit he sought for, and found a professional gentleman—reputed 'skilful in obtaining and preparing specimens in anatomy, although ostensibly practising only the arrangement of artificial teeth'—with whom an agreement was made, for my remaining with him (at first) for three years, studying the science, and afterwards practically acquiring the art, in both professions. The instructor fully understanding the motive which actuated the desire of gaining a complete insight in anatomy, aided the study, purchasing crania, and other parts of the frame, for dissection and exploration—seeking introductions to those reported afflicted—to see, if any information in the subject could be gained either from the

afflicted themselves, their parents, or their immediate attendants; and wherever practicable obtaining permission for a strict examination of the afflicted person's teeth. It was during the third year of the engagement in exploring the crania of the deceased, and ascertaining the dental state of the afflicted living—reading a paraphrase of the "Song of Solomon," my attention first became directed to the sacred book; and from a diligent study of the narration, it appeared, what the continued observations of the living have since confirmed—the part of scripture paraphrased, by the poet Prior—the second verse of the fourth chapter, proclaimed a point of excellence in the human structure—in these words "Thy teeth are like a flock of *sheep that are even* shorn, which came up from the washing; whereof every one *bear twins*, and none is *barren* among them." The inspired writer, seemingly anxious to fix the attention to the gracefulness of the similitude, repeats the words in the sixth verse of the sixth chapter. Throughout this work the effort will be continued to demonstrate the propriety of every term employed in the comparison—the highly moral and physical importance of the condition portrayed therein—and, that it is distinctly in the power of all parents to confer this highly estimable state upon their offspring! First, to give one of the 'reasons borrowed from nature' which induced the conception that the fourth chapter of the 'Song of Solomon' in its secular meaning, implied commendation of a state of corporeal perfection immensely valuable to all mankind! It is here advisedly stated that in the years devoted to the study and observation of the form of the head and mouth, with the state of the teeth therein—of those who were, or had been physically afflicted—in no one of the eighty seven, to whom for that purpose we were introduced, could there upon the most careful examination be discovered the possession of teeth, or traces of having possessed them, in the perfect state to which the scriptural comparison would be fully applicable. The mouths of the afflicted being generally small, their teeth were seldom seen "*even*, and white, like a young flock, coeval, and new-shorn:"—very few of the pairs *bearing* the exact resemblance, both in shape and growth, to each other, which would have shown they had been 'coeval,' and were "*twins*:" and where '*even*' in the front of the mouth, invariably found holding, or exhibiting proof of having long held some "*barren* among them:" which term Johnson defines—'in Theology'—"aridity, want of emotion, or sensibility:"

the positively observed state of abnormal, undeveloped teeth, as not being in their proper position, and consequently becoming defective in the nutritive fluid, they attain a morbid 'aridity:' and being unsupplied with nerves, are utterly devoid of sensation. From various occurrences our attention was directed to ascertain, in nature's works, the true periods for the growth and proper development of the teeth, we purchased at different places, eight crania of infants, and six of adults: and commenced the scrutiny of every internal part. Eventually exploring the maxillaries of two infants—certified to have been at the period of their decease, 'only eight months of age,' we discovered in both, the rudiments of twenty-four teeth—twelve in each superior (or upper) and twelve in the inferior (or lower) jaw—all in an equal state of elaboration, and apparent readiness for having received their roots, and being cut, in pairs, through the gums. As no book on the subject which either of us had seen, named such a number of the first teeth, we purchased several other works, and among them, an early translation from the French, published in 1668, by Francis Maurieeau, which gave only the following slight information.—"The teeth usually begin to come forth towards the fifth or sixth month, *sometimes later*. Then because of the exquisite sense of those parts there happens such great pains to the children, that those who hitherto were very well, are now in great danger of their life, and often die, by reason of the many mischievous accidents which happen to them at that time. Hippocrates, in the 25th aphorism of his 3rd book, names the principal of them, as "fevers, convulsions, &c., and chiefly when they breed their canine teeth."

In a part of a work on the teeth, published in 1771, by Mr. J. Hunter, is stated, "As the fangs of the teeth are formed, the upper part is gradually pushed upwards, till at length about the 7th, 8th, or 9th month the incisors begin to pass through the gums. These *twenty teeth* are called 'the temporary teeth,' because they are all shed between the age of seven and fourteen years; and supplied with others of a finer texture, which remain, till affected with disease." In a volume on 'diseases of infants,' published in 1828, by Dr. Corbyn, in page 76 he says—"In passing over the medical writings and annals of all times, difficult dentition will be found unanimously acknowledged a pathological phenomenon, and the immediate cause of many

dangerous diseases in children." In page 87, he states from Dr. Underwoood's work—"The lungs are one of those parts on which the irritation from teething is apt to fall; and when fixed there, the symptoms bear an alarming aspect. A precise acquaintance with their true cause is therefore of the greatest importance, otherwise, an unsuccessful plan of cure will be adopted. I speak this from much experience, having known good physicians overlook the true cause of the imflammatory symptoms, especially when children have cut the *usual number of first teeth*. In such cases, I have met with the most alarming peripneumonic symptoms." Dr. Corbyn then proceeds to state—"It is shown that cause is inscrutable; and while it is often keenly sought for, effect is working irreparable injury. We are, I am thankful to say, better informed how to remove difficult dentition than we are of the occult nature of the cause. The wisdom of the Creator has done much to prevent harm and danger therein, *if the instrumentality of man were duly and reasonably applied!*"

These and numerous other writers from the earliest ages 'on diseases of infants,' while acknowledging 'the difficulties and dangers attendant upon them, while teething, seem to have considered the cause of those difficulties, utterly inscrutable!'

To this latter point, as well as to the apparently entirely overlooked one of there being generally found twenty-four teeth in the maxillaries of infants at the sixth month of life, my attention was for *some years* strictly given; and after considerable study, and a careful examination of several other infantile crania—the discovery of the long existing initial cause of the difficulties in dentition, and the means by which 'the instrumentality of man' might easily remove those difficulties appeared perfectly evident to me. For which purpose, a system of denticulture was expressly arranged, in the definition of which, the discovered *cause of the difficulties in dentition*, will be exemplified.

CHAPTER II.

PROPOSED SYSTEM FOR AIDING DENTITION, AND THE NECESSITY FOR ITS APPLICATION.

Being led by the reading of some extracts from the works of both, Mercuriali and Mauriceau to understand that the cutting of the teeth in infantile life, formerly commenced earlier, than in the present time; and having ascertained by actual observation of many infants, that although the first teeth were generally as perfectly formed in readiness for such early development, there had long existed an inherited cause of obstruction to that process. Believing too in the highly injurious effects of those obstructions, and that it was easily in our power to prevent the cause forming in the future, the system for that purpose was arranged by me, which has been fully practiced for more than forty-seven years.

First, at the fourth month of the child's life, the nurse must be enjoined to rub gently the gums, every morning for a few days, then to dress the gums with powdered loaf sugar, in which one drop of almond oil had been mixed. If, with this dressing continued to the sixth month, the lower incisors have not appeared, the gum lancet must be used, the main object being—commencing the process, at this intended period. thus rendering the progress comparatively easy. Still the process must be watched, and every symptom of uneasiness, flushings in the face, &c., unfailingly relieved by the lancet, until the whole number of the first teeth had appeared. By that culture, which is *really painless*, and being soon understood by the child, is generally willingly yielded to; and where the requisite repetition of the aid had been accidentally neglected, *even invited*, as several parents would cheerfully testify. By that culture, tooth-ache or decay of teeth will be rarely, if ever, known to the child. By that culture the crowns of twenty-four teeth, will be made clearly to appear, at or near their proper time—the completion of the fourth year of life—then the four supplemented molars exercise their assigned actions —upon which (as previously stated) great study had been bestowed, and many inquiries made, but never by any one instructively answered; therefore, the writer, from his own observations

alone, was eventually led to conclude were—the elongation and expansion of the infantile maxillaries, for when thus early cut, those teeth certainly accomplish that desirable end, thereby greatly aiding the clear expulsion therefrom of all that were intended to be deciduous in the first dentition, the perfection of the second, and in rendering free the interior of those bones where vital actions have to be incessantly carried on, the secretion and mutation of the juices for the formation, and maintenance in a pure state of the vital fluid: and where the four supplemented teeth were left long uncut, the whole of those actions were traceably obstructed, and many diseases really implanted by their obstructions. With such impressions it was firmly believed that by such culture of the teeth, every hereditary taint, morbid disposition, and passion in a family, might be entirely eradicated! and by that culture the full number of the permanent teeth would be certainly developed by or soon after the fourteenth year. The process of dentition being then perfectly accomplished, the nutritive and growth promoting matter could be released, its full power being at that period required for the general accretion of the body.

The second part of the system is rendered imperative only where the culture of the first dentition had been neglected. Having noticed in the crania of those deceased between the ages of seven and ten years, holding any temporary teeth unshed, their roots instead of being nearly absorbed were strengthened, consequently the difficulty in shedding them had preternaturally increased: so wherever were found in the children seven years old, and upwards, that the first teeth had not commenced shedding, or the progress therein arrested—the four temporary canines were at once extracted—to prevent the possibility of that entirely disregarded, but highly dangerous state in dentition—*a dead-lock*—which state had been positively known to be destructive of life, in three apparently strong and healthful children. Further, wherever discovered in those between twelve and fourteen years of age, the mouth contracted—teeth irregularly crowded, leaving no room for the wisdom teeth to emerge, advice was given, and the parents earnestly besought, to allow the removal of those four first molars — supplemented to the first dentition, for purposes which in an unaided state they had not effected, and were, as previously observed, injuriously obstructive to

the completion of dentition. This was first tried only in a few families, and finding that it insured the object in view, giving room for the back molars to appear in their proper places, and freedom of action to the glands, it was generally introduced. Finding too, almost unfailingly—proofs of decay in every one of those teeth, and that the places previously held by them in the maxillaries, were soon completely filled up by the other teeth—to their great relief from lateral pressure, it appeared there could not be any valid objection thereto.

Many of the parents of those, thus beneficially aided to complete dentition have held themselves in readiness, for years, to testify to the truth of these declarations and their own observations of the benefits conferred by the aid being given thereto—"each of the patients "had attained an improvement in the character of the voice, a more elegant form, and an evidently enlightened mind!" This system of denticulture was first introduced to the residents in the town of Cheltenham, in September, 1837; and every available method has been from that time incessantly exerted by me, to gain attention to the constantly increasing proofs of its real importance. Out of ninety-five testimonials received up to the year 1859, certifying to the perceptible benefits thereby conferred—the annexed—one of the earliest is selected, being from a gentleman whose eldest child had, he 'believed fallen a sacrifice to difficult dentition,' intrusted his five younger children to the entire treatment, under the immediate inspection of the family physician, Dr. W. H. Hooper—

To G. H. CULLIS, ESQ., Cambray Place, Cheltenham.

"SIR,—I cannot leave Cheltenham without bearing testimony to the success of your practice as a Dentist generally, and more particularly in the cases of my children. For seven years during the most critical period of dentition, they were with confidence submitted to to your management, and I can with truth say I have every reason to be most entirely satisfied with *the result of your system*, each of them having an even, regular, and I may add, excellent set of teeth, for which I feel they are mainly indebted to your skill and judicious care."

"I remain, Sir, very faithfully yours,
"C. COOCH."

"1, Bath Villas, Cheltenham, 18th May, 1850."

With the view eventually of more fully exemplifying the observed sad effects, traceable to no other causes than imperfections in dental development, the following narrations are premised. In the month of June, 1858, engaged Mr. Coventry, M.R.C.S., living at Essex Villa, to accompany me to Cleeve, four miles from Cheltenham, and attend a young man named Kitchen, who had been specially reported to be 'suffering from occasional paroxysms approaching to insanity.' Arriving at Cleeve, saw the patient—who was twenty-one years of age; examined his mouth—found the condition, as expected—each maxillary filled by fourteen crowded teeth, leaving not the slightest room for either of the four wisdom teeth to emerge. Explained to the parents the injurious positions of the four uncut teeth; and offered freely to extract, on each side, one of the decaying molars which held down the back teeth, assuring them that it was the only possible means of administering relief in such a case. Mr. Coventry 'strongly advised the parents to allow the kindly offered safe operations to be performed;' but they peremptorily refused. Surveying the parents, a slight difference was detected in the movement of the left eye from that of the right, in the head of the father (Mr. William Kitchen) and inquiring 'if he could see distinctly with the left eye?' was answered "he could not—the sight having, some years ago—from some cause unknown to him—suddenly failed. Examined his mouth—found retained in the upper jaw, an uncut wisdom tooth! Enquired further—"Is the young man who we have just seen, the only one of your family afflicted?" was answered "No; I have another son, who is partially paralyzed, and has been so from his infancy." Turning to Mr. Coventry, he was thus addressed—"Here, sir, are some proofs of the sad effects of that secret cause, which my endeavours are to reveal to the world. Undeveloped teeth imprisoned in the maxillaries, like that in the mouth of the father of the young man, must, by irritation of the nerves, and obstructions to the fluids occasion some disease;" here, it has not only affected the organ of vision in his own case, but entailed the lamentable state we have seen in the one, and heard of in another of his hapless offspring: and such and even deeper afflictions (which are firmly believed by me to arise from such easily preventible obstructions) are said to be "greatly on the increase throughout the whole of this country," and indeed 'throughout many other countries;'

and when we return to my residence, if you can spare the time to examine the anatomical preparations which are there, and will kindly attend to the attempted explanation of the irregularities therein that induce the obstructions; it is very possible, we may be enabled to trace the believed source of those physical afflictions.

Upon our return, we commenced the inspection with the earliest of the deceased among the infantile crania—two of which have been previously referred to—as 'deceased aged eight months,' and two others at twelve months.' In all the four were exhibited the crowns of twenty-four teeth; and although none had been cut in either of the maxillaries, no irregularities could be discovered therein. Proceeding to two stated deceased aged five years there were shown that sixteen teeth only, had pierced their crowns through the gums, while its swollen state (which has been specially preserved) over the uncut temporary molars, holding the crowns of their intended successors intensively compressed, and the astonishingly dilated sockets in which the four first permanent molars had become immured in the otherwise unexpanded maxillaries, proclaim the highly irregular condition of each exterior, and the utter confusion of their internal contents, into which they had been thrown during the short lives of the innocent victims! This is the period in life, and the condition at that period, it has appeared from carefully regarding the living, in whom such a state had been neglected, that in those who survived the condition, all the errors in the second dentition, and the consequent organic diseases have their foundation laid.

We will here rest for a time while those crania are being replaced in their proper order; and before proceeding to the specimens of the adult, allow me to state that they are far more delicately prepared, showing the nerves and arteries in the brain, and strictly for exhibiting to those only who are seeking instruction therein. Upon returning to the Laboratory, and seeing the fresh crania arranged and unveiled, Mr. Coventry exclaimed "it is evident that not only very great care, time and attention have been bestowed upon these preparations, but study also of that branch of human physiology, of which I can truly say in Lavater's words "I grieve to think how little I know of that part of the body of man, which is so superior to all that science has yet discovered—to all belief—to all conception!" therefore feel the

more desirous of gaiuing some information thereon." Taking in my hand a selected cranium—it was shown labelled 'deceased at the age of nineteen years,' which its general appearance fully indicated. The teeth were in a similar state to those found in the patient's mouth at Cleeve, but the external parts of the bone-sockets being removed, exposed the roots of the second molars, compressing the crowns of the wisdom teeth, obstructing the nutritive process, and the ducts through which the humours are passed for constant renewal.

Dr. Roget states "Life consists of a continued series of actions and re-actions ever varying, yet constantly tending to definite ends. Perpetual and uninterrupted mutation appears to constitute the fundamental law of living nature"—but in such a state of dentition as that seen in the cranium before us; (and it is positively the condition of very many of the living at the present time nineteen years of age) it is hardly possible for any one long to hold that uninterrupted mutation of the juices upon which so entirely depend—the conversion of the chyle into the vital fluid—the maintenance of the health of the body—and perfect influence of the nerves—the ministers within us, actuating and directing all our corporeal actions. Thus, one of those important organs—either that of vision, audition, or the intellectual functions becoming thereby deprived gradually of its due nutrition, must eventually attain a morbid state. In such a dental condition too—it is here advisedly stated—the dangers to woman in parturition are greatly increased!—Such a state of the maxillaries might upon examination almost unfailingly be found in the suicide—those suddenly (otherwise unaccountably) cut off in early life—the greater number of the criminal class—those "bereft of light, in eyes, though clear to outward view of blemish or of spot," as Milton pathetically explained his own case—as we saw to-day in that of Mr. Kitchen—and as may be found in every town in the kingdom—and as have ever yet been seen by me in those attacked by insania!

Upon this point the attempt will now be made to sum up what the results of the study of various works—the information of attendants upon the insane, and the interviews with the afflicted—have led me to conclude—namely—that 'mental derangement' (physically considered) springs directly from insensibly contracted obstructions

in the maxillaries to the action of the humours, which corrupting the blood, depraves the juices in the nerves of the brain, and induces disorderly motions to arise therein.

Now, upon a subject of such vast importance to mankind, it has been said, "Whoever enlarges our views of the preventible causes that lead to such an affliction, must be a public benefactor:" the endeavour shall be further continued to prove by extracts from the works studied, the general correctness of the deductions just submitted. The first is from the 'Encyclopedia of Natural History'—article, 'Mental Derangement'—upon which the talented writer remarks "The name is evidently a faulty one, because to be diseased or deranged is quite incompatible with the simplicity of essence, and the eternity of duration which are the essential attributes of the mind. Even those diseases must be bodily, but as they do not necessarily and immediately produce any topical or systematic effects upon the body, which in its material structure follows the general law of material creatures, we are unable to point out where the disease lies, or in what it consists."

From 'Barrow's Universal Dictionary.' On 'attenuants.' "Since the purity and proper temperament of the vital juices depend upon the due secretion and excretion of everything superfluous and recrementitious in the constitution: it is therefore obvious that such medicines as remove obstructions must be excellent remedies against diseases, in which the humours have evidently lost their due temperament, and are become impregnated with viscid, sulphureous, and acrid principles."

On "The human body." "In order to form a just notion of the body of man, it ought to be considered as a hydraulic machine contrived with the most exquisite art, in which there are numberless tubes properly adjusted and disposed for the conveyance of fluids of different kinds. Of these, the principal is the blood, from which are derived the humours subservient to the purposes of life, and in particular that subtile and remarkable elastic fluid generated in the brain, and known by the name of animal spirits, the instrument of sense and motion." Mead's 'Monita et Precepta.' Here it may be stated that history records "Dr. Mead spent fifty years of his life, in studying medicines for the relief of those disordered in their intellect," and from Mead's

works the following is also taken. 'On madness.' "Moreover, the very blood in this disorder is thick, sizy, and black: whence upon dissection the brain appears dry, and almost friable, and the vessels distended with black sluggish blood. Now it will be of use to observe that most of the medicines proper to be given in this disease are endued, in some degree, with the property of opening and scouring the glands." There are several other works on that table before us from which extracts hade been taken: two volumes on 'Natural Philosophy Delineated,' by J. H. Winkler, F.R.S., London, treating extensively on 'disorders in the brain:'—which probably you will have time to glance at. But however highly—the quoted statements and the publications of experienced writers that happen to be in conformity with the views taken by me—may aid in establishing their consistency as to the origin of most of the organic diseases; it has never been intended to rely principally for such proofs upon those writers' statements, but rather upon those possessed. and easily produced evidences in nature's works. Still while holding such evidence of their truth, and the firmest conviction of their importance—the views have never, for a moment, been considered absolutely indisputable; leaving them entirely, as every author is bound to leave his work, for the public to decide as to the value of the arguments therein propounded. But in a work, which advances anything new, and appears at all controversial there will be obstacles in the way of its receiving strict attention, and an impartial decision. First it may appear to contradict the preconceived and established belief of the many—and all who have ever studied human character know the difficulty of bringing back public opinion after it is settled on any subject.' Next, it may be deemed an invasion of the vested interests of many professional gentlemen, and their acquaintances. Although such knowledge has long been before me—the object of every address hitherto made—is the invitation to any number of men to 'an open, free, and unbiassed scrutiny, into the correctness or otherwise of the declared belief in the pointed out obstructions to nature's actions being—(let it be understood—not considered the only cause, experience has shown us other agents occasionally injuriously acting, viz.: sunstroke, lightning, sudden fright, &c., but) the frequently inherited and by far the more general origin of diseases in the various organs of the human body. The views possibly being allowed to be correct, it might be enquired "if the proposed

system of 'medico-chirurgical-pathology,' for the utter annihilation of organic disorders were to be extensively and fully practiced and proved successful! what would become of the province of 'the oculist, the province of 'the aurist,' 'the alienist,' and eventually of 'the dentist,' with their colleges and hospitals? The answer would be 'the professors of those special branches—must study the human frame in its entireness—and become general practitioners—that such artificial divisions of the healing art, ought never to have been established, and that we shall, some day, be ashamed to think they ever were!'

The illustrious physician Boerhaave must have meant this, when he said, "I can hardly forbear, though, perhaps, too prematurely, pronouncing, that the causes of even the most complicated diseases are more simple and mechanical, than any physician imagines; for the least and most simple disorder of one part, by communication necessarily resulting from union, suddenly perverts the powers of the most healthy machine."

In an early part of this address explanatory of the dental state, in the mouth of an infant, under twelve months of age, your attention was expressly called to there being the crowns of '*twenty-four teeth*,' which you are requested to bear in mind; and refer further to the studiously gained impression stated by me, of the original design in the formation of the four 'first permanent molars,' with the twenty temporary teeth, and being cut with them. The time therein implied for the cutting of those molars, and the views taken of them, are so widely at variance with the published statements of some high authorities in the dental profession, whose works you can peruse, and then decide which in your opinion is the more probable statement. On that table are the works, with the parts referred to marked; and a volume of notes recording well authenticated cases of the evil influence of imperfect dentition, the names of one hundred and twenty persons, known to me in the town and neighbourhood of Cheltenham, dying either suddenly or after a short illness, eighty-eight of whom, were under thirty-five years of age: and proofs that the condition of the teeth of nearly every one of them had been ascertained, and found to be in an irregular state, generally similar to that in the cranium before us.

With these remarks the reading will cease; and if the frequent repetitions have not tired you, the censure therein implied upon the

profession to which you belong, and is justly considered the highest, most intelligent, and beneficent in the kingdom, has probably excited your anger. Mr. Coventry took the works, volume of notes, and the paper into the library, and after nearly two hours spent in their perusal, returned, and said, "No. I can assure you that the address neither tired nor offended me, for, being interested in the subject, I listened anxiously, and have since intently examined the works and your paper: and upon that peculiar point in dentition, to which my attention was called! I cannot see how you could have arrived at any other conclusion than that which you have arrived at—both with regard to the object in the formation of those four permanent teeth; and the time for their development, and as the latter, appears to me to be founded on both experience and reason, it must be most correct. In my opinion too, no one who reads the paper, could long withhold his assent from the proposed system, without incurring the secret reproaches of his own reason."

The paper being amended was read, December, 1859, at the Philosophical Institution, by Mr. Beamish, F.R.S., accompanied by Dr. Bird, the Rev. C. H. Bromby, in the chair. The address was well received by the audience, and a vote of thanks given for the interesting and instructive lecture. Five hundred copies were printed, the greater number of them presented to the colleges, hospitals, and asylums in England. One copy specially presented to the Emperor Napoleon III was courteously acknowledged, first, from the 'Cabinet de l'Empereur, Palais des Tuileries, le 19 juillet, 1862. Secondly by the "Consulat General de France et Angleterre, London, 28th August, 1862. 'The Consul General of France presents his compliments to M. Cullis, and has the honour of forwarding hereby a letter addressed to him by H. E. the minister of agriculture, commerce, and public works." Copy of the letter (here partly translated) "Paris, le 8 Aout, 1862. Monsieur, I am commanded by his Majesty, the Emperor to transmit his thanks to you, for the work,—'Sur la folie hereditaire'—which he has ordered to receive the immediate attention of his ministers, and the Academy Imperiale de Medicine.' Receve Monsieur l'assuranee de ma parfaite considcration." "To M. Cullis, (George Henry,) Cheltenham. Name (well written, but indistinctly.) Recurring to the subject, and the notes taken of the many proofs recorded in my diary of those holding irregularly grown, or abnormally undeveloped teeth, being liable at any

moment to be attacked by some severe affliction! the following incidents to persons known to be in such conditions, clearly informed 'of them, and the dangers generally attached thereto,' are selected. In the month of July, 1859, attending to the teeth of some pupils at the 'Cheltenham Grammar School,' observed one young gentleman, fifteen years of age, retained unshed a temporary canine tooth, which was forcing the permanent one to strike back into the arch of the palate. Knowing his father, a solicitor, living in this town, walked there with the youth, and with the aid of a magnifying mouth-mirror, exhibited the position the new tooth was erratically taking, and fully explained to him, the serious consequences, known to me, of such irregularities in the growth of the teeth, namely: intense excitement, bodily afflictions, and even sudden deprivation of life! and urgently besought him, to allow me to remove from his son's mouth, the unshed temporary tooth, restore to its right position the permanent one, and save the youth from the danger of being afflicted by one or more of the calamities too frequently incident to such a condition. He thanked me for the information, and said he had seen one of my works on dentition, and heard objections made to the views taken; and he himself preferred at all times leaving the works therein entirely to nature. He was assured the erratic tooth could not be reclaimed without surgical aid, which if not soon administered would never be available. Being allowed to examine his mouth, found, and informed him that he had never cut either of the wisdom teeth; and was by no means free from danger, should he incur any great and sudden excitement! He replied, 'Oh! that's nothing; my mother cut those teeth after she was fifty years of age, and lived several years afterwards." He unhappily did not live to that age, for within twelve months after the interview, while engaged in an exciting case at the 'Cheltenham County Court,' he was attacked with an epileptic fit, conveyed to his residence, where after a short illness he expired in his thirty-ninth year.

Sad as these recorded occurrences are to the elder gentleman, there are far more extraordinary results accruing from the neglected dental condition in his son. This youth (according to my informant who well knew the family) attained an elegant appearance, and became an accomplished scholar. Rather against his will he was articled to an

attorney. The sedentariness of an office life soon nurtured both the consequences of his abnormal condition and the inherited morbid state, which were exhibited in cerebral irritability, and enforced restlesness; remaining away from the office without leave, becoming insolent, and pursuing such abandoned habits, that obliged the attorney to cancel the indentures. Strong efforts were afterwards made to reclaim the young man, but, as asserted, in vain, and the epileptic disposition being so considerably augmented by frequent inebriation, the fits occurred with such frequency and intensity that rendered him incapable of following any remunerative employment, and his relatives were most reluctantly compelled to send him into the Cheltenham Union;' where every care consistent with the rules of the 'house' was bestowed upon him.

Shortly after that occurrence, a young man named Green, visited Cheltenham; and inquiring for his former acquaintance, heard with dismay that 'he was then a pauper in the Union!' Still, Green determined upon seeing him: and their meeting was a most painful one, to young Green in particular, and who very probably holding a similar cause of cerebral irritability, rushed back into the town, purchased a pistol, loaded it, and returned to the Union, where he insanely perpetrated that horrid crime, self-destruction. An inquest was held upon him there, 30th July, 1868, before Mr. Lovegrove, the coroner, at which inquest an elder brother, and a sister attended from a distant part of the country, and identified the body as that of Frederick Green, who they both well knew. The Lady stated further that "the deceased was an intimate friend of the family, and dearly loved her brother—indeed that brother was generally beloved until he unfortunately became so abandoned—and the shock to Frederick Green, at seeing a friend he had loved, an inmate of a Union, clothed in a pauper's garb, must have overpowered his reason, impelling him to the commission of the wicked act." The coroner highly commended the young lady for 'the feeling and explicit nature of her evidence, as it cleared the case for the jury; who after a brief address to them, returned a verdict of suicide, while in a state of 'temporary derangement." A full report of this 'extraordinary suicide' was published on the following Wednesday, in the 'Cheltenham Examiner.' The young man was soon after that dire event, taken from the 'Union;' and wherever he may be, he still holds in

his mouth the once easily obviated irregular dental condition which originated the irresistible impetus to irregularities in his life, and his severe afflictions, the subsequent deep grief to his family, and destruction of his friend.

That to many of the excesses which this young man gave, and others in a similar condition give way—it would appear they are all irresistibly impelled by an intense excitement of the brain. It has been frequently said, and fully believed by many what Horace relates he was assured by Damasippus, "that the germ of insanity exists more or less developed in every one of us:" therefore the greater is the necessity for subduing the germ and cultivating the intellectual faculties; so preventing criminal propensities.

"Dr. Despine of Paris, in his 'Psychologie Naturelle.' gives a striking analysis of the mental status of the criminal classes, He says that free-will, which in the normal man is only controlled by the sense of duty, in the criminal has no such counter-balance, that sense being wanting. His acts are therefore mentally automatic, the result of the strongest instinct or passion prevailing at the time. Most criminals are, therefore morally irresponsible, no matter how great the crime is against society." Dr. Thompson, resident surgeon to the prison at Perth, finds his experience confirmatory of the views of Despine; and in a paper published in the 'Journal of Mental Science,' for October, 1870, recognises, in criminals, various degrees of '*moral insensibility.*'"

For the purpose of illustrating the systematic treatment of the early stage of insanity, the annexed is submitted. 1861, November 28th, walked to Gretton, a village 8 miles from Cheltenham, to a patient who had been seen by me, named Hester Greening, saw her, and explained to the parents, the highly dangerous condition which she was in, and which arose from an imperfect development of her teeth. The young woman was then in a calm state, and told me that "she had been to my house twice; once with Ann Aston, some time before, and would certainly call at my house in a week's time." The parents were cautioned not to delay it longer. On the 5th March, 1862, Hester Greening was brought in a vehicle from Gretton. Her mother

alighted first, and stated, that "Hester was then in her 20th year, and had of late become much more dangerously delirious; she had lost one daughter, at about the same age, and in a similar state." Undertaking the case freely, the patient was carried into the house, and being securely held by her father, the previous observations of her dental condition, enabled me in three minutes time to remove the obstructions to the humours in the mouth—the then really existing cause of her delirium. Upon being released, and instructed to rinse the gums, she took the glass of water in her hand, and willingly obeyed—then after looking steadfastly at me, gave a start, and said—"Oh! I beg your pardon for saying you were not the man I had been to, nor was this the house in which he lived; I know you now, and remember you very kindly called upon us at Gretton, and offered then to save me from severe afflictions; and now you have relieved me from them, it is impossible for us ever to recompense or even sufficiently thank you." She turned to those that were then in the room, also thanking them for their kindness, and begging pardon for the trouble she had given them. She then walked calmly to the vehicle, which she easily mounted, smiling and evidently evincing her restoration to a perfectly sane state.

July 22nd, 1864.—Being in Birmingham, called upon Dr. Theodore Boisregon, 'Duddeston Hall,' where he had insane patients under his care. Narrated to him several cases, with the full particulars of Hester Greening's; to which the doctor listened attentively; and then observed, "the accounts you give of the cause of insania, the preventive system, and relieving the early stages of the disease, are perfectly new to me." "Still," he continued after a pause, "they are by no means unreasonable; and they bring to my recollection several circumstances, to which at the time I paid but little attention—amongst others, of two persons under my care, at different, but not far distant periods, who, after being for several months very troublesome, suddenly became quite recovered from their insane state; and the information obtained from each of them, was to the effect that during the night previous to the time of reporting it, a fluent escaped from the palate; and in a short time after 'that strange incident,' the sensation of disturbances in the head subsided. "This," said Dr. Boisregon, "is what they told me."

There is still another important point in physiology to be noticed—the observed early disabling of so many of the female students; which the physicians attribute to "overtaxing the brain;" but it is here distinctly averred, the same principle which is early disabling the female graduates of schools and colleges in America, extensively exists throughout this country, and many others, in a greater degree in the slightly educated class, than in the highly educated and the real primary cause which is rendering so many "physically unfit" for close attention to study, has been in this work respectfully submitted.

The ensuing excerpts from the London 'Standard,' April, 1874, reviewing a work on the subject, in which the reviewer states, "And we must agree with Dr. Maudsley that 'it would be an ill thing, if it should so happen that we get the advantages of a quantity of female intellectual work, at the price of a puny, enfeebled, and sickly race.'" That such a penalty is not altogether hypothetical, is proved by a work to which we some time since alluded by Dr. Edward Clarke, who states that the number of female graduates who have been permanently disabled by too close an attention to study, is so great as to excite the gravest alarm. If *these causes*, says Dr. Clarke, 'should continue for the next half century, and increase in the same ratio as they have for the last fifty years, it requires no prophet to foretell that the wives who are to be mothers in our Republic must be drawn from Trans-atlantic homes. The sons of the new world will have to re-act on a magnificent scale, the red story of unwived Rome and the Sabines." Other American physicians confirm this testimony, Dr. Weir Mitchell averring that "to-day the American woman is, to speak plainly, *physically unfit for her duties.*"

A short report of the words delivered by Dean Stanley, 21st January, 1871, the Sunday following the funeral of John Herschell, on 'Scientific Discoveries,' having been kindly presented as "applicable to this work," it is here, with a few observations thereon, introduced.

"We often hear it said," remarked the Dean, "we often in our indolence think that all truth is old, and that there is nothing new

under the Sun. The true answer of science is that which is again the parallel and the illustration of the language of the Apostle. The mysteries of knowledge, which, in other ages, were not made known to the sons of men, are now revealed, and will be still more revealed to those whom God has chosen. And further, as Herschell avowed, 'there are yet behind to search out and declare, not only secrets of nature, but truths which shall ennoble the age and the country in which they are divulged, and by dilating the intellect, re-act on the moral character of mankind.'"

The foregoing sketch would seem to show, both the orator and the contemplative Herschell well understood, that 'man was ordained to study'—science being ever progressive—that there were secrets of nature yet to be explored, and important truths established. Fully concurring with these views, and in concluding this paper, the writer may be allowed to observe, that remembering how powerfully he was influenced to undertake the study, and strive to trace the secret cause of 'known severe effects'—and wonderfully preserved during a period now extending over forty-seven years, zealously persevering in the administration of the discovered source of relief to the afflicted, and the preventive system upon more than eighteen thousand patients, feels that he has exceedingly great cause of devout thankfulness for being so long maintained actively instrumental in conferring such benefits, and obeying the "divine commandment." Further, through the whole course of practice, he has ever striven strictly to regard the precept and admonition of that excellent philanthropist, the Hon. Robert Boyle, of whom his intimate friend, Bishop Burnet wrote: "It appeared to them who conversed with him on his enquiries into nature that his main design was, to raise more exalted sentiments of the wisdom and goodness of God. This design was so deeply impressed on his mind that he concludes the article of his will which relate to the 'Royal Society,' in these words: 'I wish them a happy success in their attempts to discover the true nature of the works of God: and I pray that they, and all other searchers into physical truths, may cordially refer their attainments to the glory of the great Author of Nature, and to the comfort of mankind.'"

APPENDIX.

NOTE 1ST.—The ensuing statements, replies to letters, &c., are appended for the purposes of showing how perseveringly the writer strove to gain attention to, and a strict investigation of 'the system for the prevention of physical afflictions'—which he had at that time been openly practicing for more than twenty years.

After the publication of the work on the subject, in the year 1859, others were printed, and one of the pamphlets containing plates, and extracts from lectures thereon, was respectfully presented to the 'Royal College of Surgeons, London,' soliciting their acceptance of an entire collection of anatomical preparations, exhibiting all the points in the crania referred to in the pamphlet, and the appointment of a committee to examine the cases that would be, at any time, named by them, submitted, which the writer thought would clearly prove the necessity for the greater attention to the dangers of abnormal dentition.

Answer received, "Royal College of Surgeons, London, 28th January, 1862."

"Sir,—I am directed to acquaint you that in the opinion of the Museum Committee, the crania you offer to the acceptance of this College are not desirable, and the Committee must beg to decline to depute anyone to examine the proofs you possess of the importance of greater regard being paid by the profession to the dangers of abnormal dentition."

I am, &c.,

"EDM. BALFOUR."

To G. H. Cullis, Esq., Cheltenham.

In answer to a similar application for attention to the subject, the following was received:

"Royal Humane Society, Office, 4, Trafalgar Square, W.C.,
26th February, 1862."

Sir,—Having laid your letter, &c., before the committee of this institution, I am desired to inform you that the subject you treat of does not come within the rules of this society, and therefore they do not feel themselves justified in taking up the matter."

I am, Sir, your obedient Servant,

LAMBTON J. H. YOUNG, SEC."

To G. H. Cullis, Esq."

Although understanding that the management of the diseases of the public, exclusively is held by the members of the medical profession, undaunted by the refusal of the College of Surgeons, and other institutions where the influence of the profession prevails, to attend to the prayer for an investigation of a subject, of such declared importance to the community: knowing that the government had once interfered with their vested rights, compelling them by an Act of Parliament to practice 'vaccination instead of their previous system of 'inoculation.' Pleading this precedent, a memorial was presented to each Secretary of State, up to the year 1868, praying the appointment of a commission of inquiry into the proofs that would be adduced of the discovery of an entirely overlooked cause of the increase exhibited in the tables of infantile mortality, insanity, and other afflictions, with the clearly proved system for the prevention of such evils in the future.

The answers being merely acknowledgments of receiving the memorial, one only is presented.

"Whitehall, 24th October, 1866.

"Sir,—I am directed by Mr. Secretary Walpole to acknowledge the receipt of your letter on the subject of Infantile mortality, hereditary insanity, &c."

I am, Sir, your obedient Servant,
BELMORE."

"To Mr. Cullis, Cheltenham."

Failing to gain attention from either of the Secretaries of State, a memorial was addressed to the Lord Chancellor (Lord Chelmsford), being the legal guardian of the insane and afflicted, praying an investigation of the truth of the declarations of the cause of insanity, &c., to which the following was received.

"7, Eaton Square, S.W.,
16th January, 1868."

"Sir,—I am directed by the Lord Chancellor to inform you in reply to your memorial dated 15th inst., that his lordship has no power to

order an examination or an investigation of the matter to which you refer therein."

I am Sir, your obedient Servant,
E. THESIGER."

To G. H. Cullis, Esq.

Having casually referred to 'the Royal Society, its history was sought; and finding in 'Barrow's' work that the 'Royal Society of England,' is an academy or body of persons of eminent learning, instituted by King Charles II, for the promoting of natural knowledge."

"Their design is to make faithful records of all the works of nature or art which come within their reach; so that the present, as well as after ages, may be enabled to put a mark on errors which have been strengthened by long prescription, to restore truths that may have been neglected, to push those already known to more various uses, to make the way more passable to what remains unrevealed, &c.

Believing that the Royal Society would attend to the subject if respectfully solicited, a prayer was made by the writer in the month of June, 1880, to that society to allow the manuscript of a new edition of a work explaining the certainly preventible natural cause of insania, &c., to be sent for examination, and if approved, read before a general meeting of the members. To which the assistant secretary, Mr. White, replied:

"Burlington House,
June 26th, 1880.

Sir,—In answer to your intimation that you desire to submit to the Royal Society, a paper, I am directed to inform you that it would be in favour of that paper, if communicated to the society by a F.R.S., with his name written under the title as evidence of the subject being suitable."

Two gentlemen in Cheltenham, members of the society, upon application to them for that purpose refused to sign the paper, on the grounds, that as the subject was medical it was unsuitable, and having

been previously referred to, in lectures, pamphlets, and letters, could not be called an entirely new subject: for, resumed one of the gentlemen—Dr. Wright—"your paper brings to my recollection the many times I have read of it, and the number of years you have been so zealously persevering in that labour of love."



FINIS.





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"Brantwood.

Coniston, Lancashire,

7th September, 1883."

"My dear Sir,

I have looked through the evidence you have arranged from your experience of brain and dental phenomena, and cannot myself doubt the immense value of the results, nor the truth of the conclusions, and I will certainly take occasion to say so, when my opinion may have weight. But it seems to me altogether desirable that you should re-arrange the book, putting all reference to opposition and neglect into an appendix, and making the body of the text consist of a perfectly straightforward, firm, and brief assertion of your knowledge and exposition of your belief, with the recommendations founded on them, and I do not think this work could then possibly fail to attract public attention."

"Most truly yours,

JOHN RUSKIN."

To Mr. G. H. Cullis.

3, Pittville Terrace,

Cheltenham."